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APPLICATION NO.	HIANG DATE	FIRST NAMED INVENTOR	A I TORNEY DOCKET NO.	CONFIRMATION NO	
09.836,857	04 17 2001	Seiichi lwamatsu	12179-P098UŠ	5893	
29444 1	590 01 29 2003				
KELLY KORDZIK			EXAMINER		
WINSTEAD SECHREST & MINICK P.C. 5400 RENAISSANCE TOWER DALLAS, TX 75270		.C.	VANORE.	VANORE, DAVID A	
			ART UNIT	PAPER NUMBER	

2881

DATE MAILED: 01-29-2003

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)	
Office Action Summary	09/836,857		,
Action Summary	Examiner	IWAMATSU, SEIICHI	_/
The MAILING DATE	David A Vanore	Art Unit	
Period for Reply	ppears on the cover sheet wi	th the correspond	
A SHORTENED STATUTORY PERIOD FOR DEP		and correspondence address	
A SHORTENED STATUTORY PERIOD FOR REP THE MAILING DATE OF THIS COMMUNICATION Extensions of time may be available under the provisions of 37 CFR 1 after SIX (6) MONTHS from the mailing date of this communication. If the period for reply specified above, the maximum statutory period If NO period for reply is specified above, the maximum statutory period Failure to reply within the set or extended period for reply will, by statut Any reply received by the Office later than three months after the mailing arread patent term adjustment. See 37 CFR 1.704(b). Status 1) Responsive to communication(s) filled on 06 2a) This action is FINAL. 2b) The 3) Since this application is in condition for allowed closed in accordance with the practice under Disposition of Claims 4) Claim(s) 1-9 is/are pending in the application. 4a) Of the above claim(s) is/are withdraw 5) Claim(s) 1-9 is/are allowed. 6) Claim(s) 1-9 is/are rejected. 7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/or pplication Papers 9) The specification is objected to by the Examiner.	LY IS SET TO EXPIRE 3 MC. 136(a). In no event, however, may a re ply within the statutory minimum of thirty will apply and will expire SIX (6) MONT e, cause the application to become ABA in date of this communication, even if time. December 2002 Inis action is non-final. Cance except for formal matte Ex parte Quayle, 1935 C.D. In from consideration.	DNTH(S) FROM ply be timely filed (30) days will be considered timely. HS from the mailing date of this communication NDONED (35 U S C § 133) nely filed, may reduce any rs, prosecution as to the merits is 11, 453 O.G. 213.	
Applicant may not request that any chiestian to	accepted or b) objected to b	y the Examiner.	
Applicant may not request that any objection to the d 11) The proposed drawing correction filed on is If approved, corrected drawings are required in reply.	rawing(s) be held in abeyance.	See 37 CFR 1 85(a)	
If approved, corrected drawings are required.	approved b) disapp	proved by the Examiner.	İ
12) The oath or declaration is objected to by the Francisco	to this Office action		
only under 35 U.S.C. §§ 119 and 120			į
Acknowledgment is made of a claim for foreign	io ait		į
a) All b) Some * c) None of:	lonty under 35 U.S.C. § 119	(a)-(d) or (f).	
1. Certified copies of the priority documents be	140 h		
and sopies of the priority documents ha	140 h -		
2 Certified copies of the priority documents ha 3 Copies of the certified copies of the priority of	ve been received in Applicat	ion No	1
* See the attached detailed Office action for	ocuments have been receive (PCT Rule 17.2(a))	ed in this National Stage	
Acknowledgment is made of a claim for domestic price a) The translation of the foreign language provisio Acknowledgment is made of a claim for domestic price ment(s)	nal application has been rec	e) (to a provisional application).	
iment(s)	onty under 35 U.S.C. §§ 120	and/or 121.	
Notice of References Cited IDTO and	_		
nformation Disclosure Statement(s) (PTO-1449) Paper Notes 4	4) Interview Summary 5) Notice of Informal P.	(PTO-413) Paper No _{tS}	
and Trademark Office	6) Other		



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Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

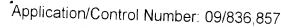
Claims 1-9 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Baylor et al.

Baylor et al. teaches an electron beam lithography apparatus comprising a first substrate (510)) having electron field emitters (431,432,433,434) positioned there above with an electric grid circuit (440) to control the emission of electrons from the desired emitters. Baylor et al. further teaches a second substrate (350) having a resist coating thereon which electron beams are impinged on to form a desired pattern as recited in claim 1. See Baylor et al. (Col. 3 Line 44 – Col. 4 Line 25.)

Regarding claims 2 and 3, Baylor et al. teaches the use of magnetic and electrostatic field lenses (463, 467, 470) between the first and second substrate to focus the electron beams.

Regarding claim 4, Baylor et al. further teaches a conductive layer between the first substrate and the field emitters. The conductive connections (530) which control electron emission and the logic circuit layer (520) embedded beneath the emitters comprise this conductive layer.

Regarding claims 6-9. Baylor et al. teaches a conductive material deposited on the first substrate between field emitters (441, 442, 443, 444), which is coplanar with the



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emitting face of the emitter, covers the edges of the emitter, and is positioned such that the emitter is recessed below the surface of the conductive material.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

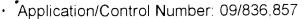
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baylor et al.

Baylor et al. teaches all limitations as applied above but fails to teach a wafer having a conductive layer implanted therein between a substrate layer and a resist layer.

Implanting a conductive layer between successive layers of resist or substrate material is well known in the art of circuit manufacture and is typically required for the production of such a device as that of Baylor et al.

Chan et al., Borel et al., and Huang et al. all teach field emission devices which manufacture or are manufactured with a process requiring that multiple layers of conductive material are interwoven with layers of substrate material and resist. For example, Huang et al. teaches an etching process for forming a field emission means using a plurality of dielectric, conductive, and resist layers (Col. 3 Line 16 through Col. 4 Line 34).



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It would have been obvious to one having ordinary skill in the art at the time the invention was made to supply a substrate having a conductive layer interposed between a substrate layer and a resist layer because the layering of conductors, dielectrics, and resist on a substrate in a lithographic manufacturing process is taught by Huang et al., Borel et al., and Chan et al., and relate directly to the manufacture of large arrays of field emission means as taught by Baylor et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A Vanore whose telephone number is 703-306-0246. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor. John Lee can be reached on 703-308-4116. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

dav January 18, 2003